AMENDMENTS TO THE SPECIFICATION

With reference to Applicant's published application, U.S. Patent Application Publication No. 2005/0147191 (published Jul. 7, 2005), please replace paragraph 0017 on page 2 with the following amended paragraph:

> [0017] FIG. 1 is an exemplary block diagram 100 of an environment where the present invention may be practiced. A wireless communication device 102, which is equipped with a GPS receiver (not shown), is in a coverage area of a base station ~~106~~ 104, and is also in view of three satellites 106, 108, and 110. Each of the satellites 106, 108, and 110, transmits a signal, which the wireless communication device 102 can receive.

Please replace paragraph 0032 on page 3 with the following amended paragraph:

> [0032] In block 602, the parameters of the DCF are initialized by setting the following parameters: the frequency estimate is set to the center of the frequency range, the amplitude is set to M_0, and the iteration count, frequency and amplitude corrections are set to zero. In block 604, a gradient matrix H is formed from the current set of parameters: the gradient matrix H has five rows corresponding to each of the five frequency offset estimates, Δf_i for i = 1, , 3, 4, 5 and two columns corresponding to the frequency and amplitude corrections. Mathematically, H can be represented as:

$$\cancel{H = \frac{\partial \mathbf{m}}{\partial \mathbf{x}}} \qquad \underline{H = \frac{\partial \vec{\mathbf{m}}}{\partial \vec{\mathbf{x}}}} \qquad (11)$$

Please replace paragraph 0033 on page 3 with the following amended paragraph:

[0033] $\cancel{\text{where } \mathbf{m}_i = M \cdot \frac{\sin(\pi \cdot \Delta f_i \cdot T)}{(\pi \cdot \Delta f_i \cdot T)}}$, $\underline{\text{where } \vec{\mathbf{m}}_i = M \cdot \frac{\sin(\pi \cdot \Delta f_i \cdot T)}{(\pi \cdot \Delta f_i \cdot T)},}$

Please replace paragraph 0035 on page 3 with the following amended paragraph:

[0035] ~~$\mathbf{x}$ is a correction vector.~~ $\vec{\mathbf{x}}$ is a correction vector.

Please replace paragraph 0036 on page 3 with the following amended paragraph:

[0036] ~~Bold letters in Equation (11) and following equations indicate that those terms are vectors.~~ A residual vector ~~$\mathbf{r}$~~ $\vec{\mathbf{r}}$ is then found by subtracting the vector of modeled magnitudes, ~~$\mathbf{m}$~~ $\vec{\mathbf{m}}$, from the vector of measured magnitudes, ~~$\mathbf{M}$~~ $\vec{\mathbf{M}}$, in block 606 as expressed in Equation (12).

$$\cancel{\mathbf{r} = \mathbf{m} - \mathbf{M}} \qquad \vec{\mathbf{r}} = \vec{\mathbf{m}} - \vec{\mathbf{M}} \quad (12)$$

Please replace paragraph 0037 on page 3 with the following amended paragraph:

[0037] The correction vector ~~$\Delta\mathbf{x}$~~ $\Delta\vec{\mathbf{x}}$ is then found as a least squares ("LS") solution to the residual vector in block 608 as expressed in Equation (13).

$$\cancel{\Delta\mathbf{x} = \left(H^T H\right)^{-1} H^T \mathbf{r}} \qquad \Delta\vec{\mathbf{x}} = \left(H^T H\right)^{-1} H^T \vec{\mathbf{r}} \quad (13)$$

Please replace paragraph 0038 on page 3 with the following amended paragraph:

[0038]where: the superscript ^{T} denotes the transpose operation and the superscript $^{-1}$ denotes matrix inverse.

Please replace paragraph 0039 on pages 3 & 4 with the following amended paragraph:

[0039] For the single execution of DCF, the first corresponding frequency correction magnitude, the magnitude of Δx_1 from Equation (13), is then compared against a minimum threshold in block 610. If the magnitude of Δx_1 exceeds the minimum threshold in block 610, then the magnitude of Δx_1 is compared against a maximum threshold in block 612, where the maximum threshold is generally set to one-half of the bin size, which is D/2, because the true frequency is assumed to lie in the Doppler bin corresponding to the peak magnitude. If the magnitude of Δx_1 does not exceed the maximum threshold, the solution iteration count is incremented in block 614, and then the solution iteration count is compared against a maximum allowable iteration count in block 616. If the solution iteration count does not exceed the maximum allowable iteration count, then the correction vector is applied and accumulated in block 618, which includes the first component of the correction vector $\cancel{\Delta \mathbf{x}}$ $\underline{\Delta \vec{\mathbf{x}}}$ being subtracted from the current best estimate of frequency, and the second component of the correction vector $\cancel{\Delta \mathbf{x}}$ $\underline{\Delta \vec{\mathbf{x}}}$ being used to adjust the peak magnitude. The accumulated frequency correction will be output to a tracking algorithm upon meeting certain accuracy. Then the process repeats from block 604.

Please replace paragraph 0040 on page 4 with the following amended paragraph:

[0040] Referring back to block 610, if the magnitude of Δx_1 does not exceed the minimum threshold in block 610, then a frequency error estimate is available for possible output to the tracking algorithm, and the accuracy of the frequency error estimate is evaluated next. The accuracy of the frequency error estimate is generally a function of the signal magnitude relative to the noise level in the correlation magnitude samples. In block 620, a noise variance, which can generally be determined from the measured C/No for the satellite of interest, is computed. A statistical consistency parameter, referred to as a unit variance U is then computed in block 622. The unit variance is computed by first re-computing the residual vector $\cancel{\mathbf{r}}$ $\underline{\vec{\mathbf{r}}}$ of Equation (12) using the solution determined in the final iteration of the convergence loop. The unit variance U is then:

$$\cancel{U = \frac{\mathbf{r}^T \mathbf{r}}{4}} \qquad \underline{U = \frac{\vec{\mathbf{r}}^T \vec{\mathbf{r}}}{4}} \qquad (14)$$

Please replace paragraph 0047 on page 4 with the following amended paragraph:

[0047] Referring back to block 624, if the unit variance falls outside of the acceptable range, then the frequency error estimate is determined to be invalid, and the correction vector ~~$\Delta\mathbf{x}$~~ $\underline{\Delta\vec{\mathbf{x}}}$ is set to zero in block 632. The tracking algorithm is informed in block 634 that a frequency error estimate is not available, and the process terminates in block 630. The tracking algorithm for this satellite will "coast" using a previously determined frequency error estimate until a valid frequency error estimate is generated by DCF, or loss of lock is determined. Similarly, if the magnitude of Δx_1 exceeds the maximum threshold in block 612, or if the solution iteration count exceeds the maximum allowable iteration count in block 616, then the process enters block 632, where the frequency error estimate is determined to be invalid and the correction vector ~~$\Delta\mathbf{x}$~~ $\underline{\Delta\vec{\mathbf{x}}}$ is set to zero.